holding and transfer mechanism, then moving to a tested IC transfer position for transferring the tested ICs to the ejection mechanism, and when transfer is completed returning to the tested IC receiving position; the ejection unit comprising a plurality of ejection trays for holding a plurality of tested ICs and configured to store tested ICs in groups according to test results at the process unit; and the ejection mechanism comprising an ejection suction mechanism for vacuum chucking ICs, a planar movement mechanism for moving the ejection suction mechanism in a planar direction, and an elevator mechanism for moving the ejection suction mechanism in a direction perpendicular to this plane, and configured to remove a tested IC from the ejection shuttle positioned at the tested IC transfer position and eject the tested IC to an ejection tray of the ejection unit according to test results in the process unit by moving the ejection suction mechanism by means of the planar movement mechanism and elevator mechanism.

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IN THE CLAIMS

Please substitute the following clean amended claims 1 to 29 for the pending claims with the same number. Marked-up versions of the amended claims follow the "Remarks" section of this amendment.

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1. (Amended) A part transfer apparatus comprising:

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a plurality of drive shafts coaxially disposed, each having a corresponding drive system connected to one end and each rotationally driven by the corresponding drive system; and

a plurality of holding and transfer mechanisms, each mounted to a respective one of the plurality of drive shafts and each having a holding device for holding a part.

2. (Amended) A part transfer apparatus comprising:

a first drive shaft and a second drive shaft coaxially disposed, each having a corresponding drive system connected to one end and each rotationally driven by the corresponding drive system;

a first holding and transfer mechanism mounted to the first drive shaft and having a first holding device for holding a part; and

a second holding and transfer mechanism mounted to the second drive shaft and having a second holding device for holding a part.

3. (Amended) A part transfer apparatus as described in claim 2, wherein the second drive shaft is hollow and the first drive shaft passes through and is disposed coaxially to the second drive shaft.

4. (Amended) A part transfer apparatus as described in claim 3, further comprising a bearing for axially supporting one end on the drive system side of the first drive shaft and second drive shaft, and a spacer for maintaining a space between the first drive shaft and the second drive shaft being disposed at the other end in the space between the first drive shaft and second drive shaft.

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5. (Amended) A part transfer apparatus as described in claim 2, wherein the first holding and transfer mechanism is mounted to the first drive shaft so that a holding surface of the first holding device is at an angle of 45 degrees to the first drive shaft, and the second holding and transfer mechanism is mounted to the second drive shaft so that a holding surface of the second holding device is at an angle of 45 degrees to the second drive shaft.

6. (Amended) A part transfer apparatus as described in claim 2, wherein the first holding and transfer mechanism comprises a first support mechanism for slidably supporting the first holding device in a direction perpendicular to a holding surface of the first holding device, and the second holding and transfer mechanism comprises a second support mechanism for slidably supporting the second holding device in a direction perpendicular to a holding surface of the second holding device.

7. (Amended) A part transfer apparatus as described in claim 6, wherein the first holding and transfer mechanism is mounted to the first drive shaft thereby connecting the first drive shaft and the first support mechanism, and the second

holding and transfer mechanism is mounted to the second drive shaft thereby connecting the second drive shaft and the second support mechanism.

8. (Amended) A part transfer apparatus as described in claim 2, further comprising a controller that alternately moves the first holding and transfer mechanism and the second holding and transfer mechanism by rotation of each of the first drive shaft and the second drive shaft to a supply transfer unit for supplying parts and a process unit for applying a specific process to the parts.

9. (Amended) A part transfer apparatus as described in claim 8, wherein the controller controls the first holding and transfer mechanism and the second holding and transfer mechanism to eject parts that have finished processing in the processing unit to an ejection transfer unit by rotation of each of the first drive shaft and the second drive shaft.

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10. (Amended) A part transfer apparatus as described in claim 2, wherein the first holding device and the second holding device each comprise multiple holding heads.

11. (Amended) A part transfer apparatus as described in claim 10, wherein the multiple holding heads each has a vacuum head for vacuum chucking parts.

12. (Amended) A part transfer apparatus as described in claim 11, wherein the multiple holding heads are arranged in line.

13. (Amended) A part transfer apparatus as described in claim 11, wherein the multiple holding heads are arranged in a matrix.

14. (Amended) A part transfer apparatus as described in claim 8, wherein the process unit performs electrical characteristics tests on the part as the specific process.

15. (Amended) A control method for a part transfer apparatus comprising a first drive shaft and a second drive shaft coaxially disposed, each having a corresponding drive system connected to one end and each rotationally driven by

the corresponding drive system; a first holding and transfer mechanism mounted to the first drive shaft and having a first holding device for holding a part; and a second holding and transfer mechanism mounted to the second drive shaft and having a second holding device for holding a part, the control method comprising independently driving the first drive shaft and the second drive shaft.

16. (Amended) A control method for a part transfer apparatus comprising a first drive shaft and a second drive shaft coaxially disposed, each having a corresponding drive system connected to one end and each rotationally driven by the corresponding drive system; a first holding and transfer mechanism mounted to the first drive shaft and having a first holding device for holding a part; and a second holding and transfer mechanism mounted to the second drive shaft and having a second holding device for holding a part, the control method comprising controlling the second holding and transfer mechanism holding an unprocessed part picked up at a supply transfer unit to wait at a standby position by rotating the second drive shaft while the first holding and transfer mechanism is positioned at a process unit.

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17. (Amended) A control method for a part transfer apparatus as described in claim 16, wherein the standby position is a position in a plane perpendicular to one of the first and second drive shafts at an angle of 180 degrees or less to the process unit around the one of the first and second drive shafts.

18. (Amended) A control method for a part transfer apparatus as described in claim 16, wherein the standby position is set at a proximal position where there is no mutual interference between the first holding device and second holding device.

19. (Amended) A control method for a part transfer apparatus as described in claim 16, further comprising alternately changing the rotational direction of each of the first drive shaft and the second drive shaft when a part is transferred from the supply transfer unit to the process unit.

20. (Amended) A control method for a part transfer apparatus as described in claim 16, further comprising setting the rotational direction of each of the first drive shaft and the second drive shaft to the same direction when a part is transferred from the supply transfer unit to the process unit.

21. (Amended) A control method for a part transfer apparatus as described in claim 16, further comprising controlling the first holding and transfer mechanism and second holding and transfer mechanism to wait at a standby position after picking up an unprocessed part at the supply transfer unit after ejecting a processed part at the ejection transfer unit.

22. (Amended) A control method for a part transfer apparatus as described in claim 16, wherein the part is an IC and the process unit performs electrical characteristics tests on the IC as the specific process.

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23. (Amended) An IC test method for performing electrical characteristics tests of ICs under a specified temperature environment, and using a part transfer apparatus comprising a first drive shaft and a second drive shaft coaxially disposed, each having a corresponding drive system connected to one end and each rotationally driven by the corresponding drive system; a first holding and transfer mechanism mounted to the first drive shaft and having a first holding device for holding a part; and a second holding and transfer mechanism mounted to the second drive shaft and having a second holding device for holding a part, the IC test method comprising:

supplying an untested IC;

testing electrical characteristics of the untested IC;

ejecting a tested IC; and

transferring the IC between a supply position for supplying untested ICs, a process position for testing electrical characteristics of the untested ICs, and an ejection position for ejecting tested ICs.

24. (Amended) An IC test method as described in claim 23, further comprising adjusting the temperature of untested ICs under a specific

temperature environment by cyclically moving trays in a chamber held to a specific internal temperature environment and storing a plurality of trays that store a plurality of untested ICs.

25. (Amended) An IC handler having an IC transfer apparatus for transferring ICs to a process unit for electrical characteristics testing of the ICs;

the IC transfer apparatus comprising a first drive shaft and a second drive shaft coaxially disposed, each having a corresponding drive system connected to one end and each rotationally driven by the corresponding drive system; a first holding and transfer mechanism mounted to the first drive shaft and having a first holding device for holding an IC; and a second holding and transfer mechanism mounted to the second drive shaft and having a second holding device for holding an IC;

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the IC handler further comprising a supply unit, a supply mechanism, a supply shuttle, a transfer mechanism, an ejection shuttle, an ejection unit, and an ejection mechanism, and wherein:

the IC transfer apparatus further comprises a supply transfer unit, the supply transfer unit comprising a plurality of trays for transferring untested ICs to at least one of the first and second holding and transfer mechanisms;

the supply unit having a plurality of supply trays that store a plurality of untested ICs;

the supply mechanism comprising a supply suction mechanism for vacuum chucking an IC, a planar movement mechanism for moving the supply suction mechanism in a planar direction, and an elevator mechanism for moving the supply suction mechanism in a direction perpendicular to the planar direction, and removing untested ICs from the supply tray in the supply unit and supplying untested ICs to the supply shuttle by moving the supply suction mechanism using the planar movement mechanism and elevator mechanism;

the supply shuttle performing above the supply transfer unit an operation for receiving untested ICs removed from the supply tray by the supply suction mechanism of the supply mechanism at a first untested IC receiving position from the supply suction mechanism, then moving to a first untested IC transfer

position for transferring the untested ICs to the supply transfer unit of the part transfer apparatus, and returning to the first untested IC receiving position when the transfer is completed;

the transfer mechanism comprising a transfer suction mechanism able to move up and down, and configured to vacuum chuck an untested IC from the supply shuttle positioned at the first untested IC transfer position and rise, then descend, and transfer the untested IC to a tray of the supply transfer unit appearing directly thereunder by means of the supply shuttle moving to the first untested IC receiving position, using the transfer suction mechanism;

the supply transfer unit being configured to sequentially cycle a plurality of trays by positioning the multiple trays one at a time to a second untested IC receiving position positioned directly below the first untested IC transfer position, and to a second untested IC transfer position for transferring untested ICs to the at least one of first and second holding and transfer mechanisms, and

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moving an empty tray to the second untested IC receiving position after transferring untested ICs to at least one of the first and second holding and transfer mechanisms at the second untested IC transfer position, and moving a tray holding untested ICs to be tested next to the second untested IC transfer position;

the ejection shuttle being configured to perform above the supply transfer unit an operation for receiving at a tested IC receiving position located directly above the second untested IC transfer position tested ICs processed by the process unit and removed from a tray of the supply transfer unit by the at least one of the first and second holding and transfer mechanisms, then moving to a tested IC transfer position for transferring the tested ICs to the ejection mechanism, and when transfer is completed returning to the tested IC receiving position;

the ejection unit comprising a plurality of ejection trays for holding a plurality of tested ICs and configured to store tested ICs in groups according to test results at the process unit; and

the ejection mechanism comprising an ejection suction mechanism for vacuum chucking ICs, a planar movement mechanism for moving the ejection

suction mechanism in a planar direction, and an elevator mechanism for moving the ejection suction mechanism in a direction perpendicular to the planar direction, and configured to remove a tested IC from the ejection shuttle positioned at the tested IC transfer position and eject the tested IC to an ejection tray of the ejection unit according to test results in the process unit by moving the ejection suction mechanism using the planar movement mechanism and elevator mechanism.

26. (Amended) An IC handler as described in claim 25, further comprising a chamber internally housing the supply transfer unit and maintaining a specific internal temperature environment, and

bringing the untested ICs to the specific temperature using the chamber while held in the plural trays of the supply transfer unit.

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27. (Amended) An IC handler as described in claim 26, further comprising a hot plate for heating tested ICs to a normal temperature before ejection to the ejection unit.

28. (Amended) An IC handler as described in claim 25, wherein the transfer mechanism is disposed directly above the first untested IC transfer position.

29. (Amended) An IC test apparatus comprising a test head having a process unit, a tester connected to the test head and running an IC electrical characteristics test in the process unit, and an IC handler for transferring ICs to the process unit, the IC handler having an IC transfer apparatus for transferring ICs to the process unit for electrical characteristics testing of the ICs;

the IC transfer apparatus comprising a first drive shaft and a second drive shaft coaxially disposed, each having a corresponding drive system connected to one end and each rotationally driven by the corresponding drive system; a first holding and transfer mechanism mounted to the first drive shaft and having a first holding device for holding an IC; and a second holding and transfer

mechanism mounted to the second drive shaft and having a second holding device for holding an IC;

the IC handler further comprising a supply unit, a supply mechanism, a supply shuttle, a transfer mechanism, an ejection shuttle, an ejection unit, and an ejection mechanism, and wherein:

the IC transfer apparatus further comprises a supply transfer unit, the supply transfer unit comprising a plurality of trays for transferring untested ICs to at least one of the first and second holding and transfer mechanisms;

the supply unit having a plurality of supply trays that store a plurality of untested ICs;

the supply mechanism comprising a supply suction mechanism for vacuum chucking an IC, a planar movement mechanism for moving the supply suction mechanism in a planar direction, and an elevator mechanism for moving the supply suction mechanism in a direction perpendicular to the planar direction, and removing untested ICs from the supply tray in the supply unit and supplying untested ICs to the supply shuttle by moving the supply suction mechanism using the planar movement mechanism and elevator mechanism;

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the supply shuttle performing above the supply transfer unit an operation for receiving untested ICs removed from the supply tray by the supply suction mechanism of the supply mechanism at a first untested IC receiving position from the supply suction mechanism, then moving to a first untested IC transfer position for transferring the untested ICs to the supply transfer unit of the part transfer apparatus, and returning to the first untested IC receiving position when the transfer is completed;

the transfer mechanism comprising a transfer suction mechanism able to move up and down, and configured to vacuum chuck an untested IC from the supply shuttle positioned at the first untested IC transfer position and rise, then descend, and transfer the untested IC to a tray of the supply transfer unit appearing directly thereunder with the supply shuttle moving to the first untested IC receiving position, using the transfer suction mechanism;

the supply transfer unit being configured to sequentially cycle a plurality of trays by positioning the multiple trays one at a time to a second untested IC receiving position positioned directly below the first untested IC transfer position, and to a second untested IC transfer position for transferring untested ICs to the at least one of first and second holding and transfer mechanisms, and

moving an empty tray to the second untested IC receiving position after transferring untested ICs to the holding and transfer mechanism at the second untested IC transfer position, and moving a tray holding untested ICs to be tested next to the second untested IC transfer position;

the ejection shuttle being configured to perform above the supply transfer unit an operation for receiving at a tested IC receiving position located directly above the second untested IC transfer position tested ICs processed by the process unit and removed from a tray of the supply transfer unit by at least one of the first and second holding and transfer mechanisms, then moving to a tested IC transfer position for transferring the tested ICs to the ejection mechanism, and when transfer is completed returning to the tested IC receiving position;

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the ejection unit comprising a plurality of ejection trays for holding a plurality of tested ICs and configured to store tested ICs in groups according to test results at the process unit; and

the ejection mechanism comprising an ejection suction mechanism for vacuum chucking ICs, a planar movement mechanism for moving the ejection suction mechanism in a planar direction, and an elevator mechanism for moving the ejection suction mechanism in a direction perpendicular to the planar direction, and configured to remove a tested IC from the ejection shuttle positioned at the tested IC transfer position and eject the tested IC to an ejection tray of the ejection unit according to test results in the process unit by moving the ejection suction mechanism using the planar movement mechanism and elevator mechanism.